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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,036	08/20/2003	Yu-Seock Yang	P-0576	5075
34610	7590	06/05/2006	EXAMINER	
FLESHNER & KIM, LLP P.O. BOX 221200 CHANTILLY, VA 20153			LEADER, WILLIAM T	
		ART UNIT	PAPER NUMBER	
			1742	

DATE MAILED: 06/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/644,036	YANG ET AL.	
	<b>Examiner</b> William T. Leader	<b>Art Unit</b> 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 20 March 2006.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-19 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 9-19 is/are allowed.
- 6) Claim(s) 1,4 and 7 is/are rejected.
- 7) Claim(s) 2,3,5-8 and 19 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 20 March 2006 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                     | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)               |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ . | 6) <input type="checkbox"/> Other: _____ .  |

## **DETAILED ACTION**

1. Receipt of the papers filed on March 20, 2006, is acknowledged. Claims 1-19 are pending.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Objections***

3. Claim 1 is objected to because of the following informalities: line 10 recites "the connection pads" while line 11 refers to "the connecting pad". It appears that line 11 should be amended to use the same wording as line 10.

### ***Claim Rejections - 35 USC § 112***

4. Claims 4 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claims 4 and 17 recite "an electrolyte layer". At page 17 applicants submit that they are entitled to be their own lexicographer. As indicated in the previous office action, the term "electrolyte" has a recognized meaning in the field of electroplating. Applicant may be their own lexicographer as long as the manner in which the terms they use is not contrary to the established meaning. Applicant suggests that Lowenheim defines "electrolyte" as the substance which when

dissolved in a solvent gives rise to a conducting solution. Paragraph [0052] of the specification states that electrolyte layers 76 and 78 are made of copper and formed through electroless plating. Metallic copper does not fit within the definition of "electrolyte" given by Lowenheim. Note also page 120 of Lowenheim which indicates that compounds added to provide conductivity to an electroplating solution are conducting salts.

***Claim Rejections - 35 USC § 103***

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
7. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Yoshizawa et al (6,132,588).

8. The admitted prior art is that found in paragraphs [0004-0017] of applicant's specification under the heading "Description of the Background Art" and shown in figures 1-3. The prior art shows that a known method of plating a printed circuit board includes that steps of providing a substrate having a plurality of connection pads and circuit patterns connected to the connection pads; using some of the circuit patterns as a power connection portion connected to an external power source; supplying power to plate onto the connection pads.

9. The process recited in claim 1 differs from that of the admitted prior art by reciting a step of covering the substrate except where plating is to take place on the connections pads with a plating resist. The Yoshizawa et al patent is directed to a method for plating a circuit board and discloses the use of a plating resist 15 at portion of the substrate other than those where deposition was to occur. See column 4, lines 52-57 and figures 1a-1d.

10. The prior art of record is indicative of the level of skill of one of ordinary skill in the art. It would have been obvious to have applied a plating resist in the process of the admitted prior art as shown by Yoshizawa et al because unnecessary plating would have been avoided.

11. Claims 9-16 and 18 are allowed. The prior art of record does not suggest the particular combination of process steps recited in these claims.

12. Claims 2, 3, 5-8 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William T. Leader whose telephone number is 571-272-1245. The examiner can normally be reached on Mondays-Thursdays and alternate Fridays, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

WL  
William Leader  
May 26, 2006

ROY KING  
SUPERVISORY PATENT EXAMINER  
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